

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111
Serial Number: 09/456,652
Filing Date: 08 December 1999
Title: Self-Describing Device Interface System
Assignee: Lexmark International

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Remarks

As stated above, the applicants appreciate the Examiner's thorough examination of the subject application and request reexamination and reconsideration of the subject application in view of the preceding amendments and the following remarks.

Concerning Items 3-4 of the subject action, the Examiner rejects claims 1-47, under 35 USC §102(b), based on the teachings of Shaw et al (U.S. Patent No. 5,845,058; hereinafter Shaw). Of these 47 claims, claims 1, 10, 16, 23, 32 and 38 are independent claims; and claims 2-9, 11-15, 17-22, 24-31, 33-37 and 39-47 are dependent claims.

Applicants claim (in currently amended claim 1):

1. (Currently Amended) An interface between two or more devices each having a data store, wherein each device is in communication with one or more of the other devices, said interface being configured to generate a datastream including at least one metavariable, said metavariable being indicative of two or more parameters of at least one of the devices, and said datastream occurring between the data store of one transmitting device and the data store of one or more receiving devices, *wherein at least one of the parameters defines one or more rendering characteristics to be applied to a print job. Emphasis Added*

Applicants claim (in currently amended claim 10):

10. (Currently Amended) A metavariable for use in an interface between two or more devices, each device communicating descriptive information, said metavariable indicative of two or more parameters of at least one of the devices, *wherein at least one of the parameters defines one or more rendering characteristics to be applied to a print job. Emphasis Added*

Applicants claim (in currently amended claim 16):

16. (Currently Amended) A method of communication between two or more devices each having a data store and a processor, each device in a communication interface with one or more of the other devices, the method comprising the steps of: generating at least one metavariable in a transmitting device, the metavariable being indicative of two or more parameters of at least one of the devices; transmitting the metavariable to one or more other receiving devices through the communication interface; receiving the metavariable at a receiving device; and processing the metavariable in the receiving device for evaluation of action required in response to receipt of the metavariable; *wherein at least one of the parameters defines one or more rendering characteristics to be applied to a print job. Emphasis Added*

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Applicants claim (in currently amended claim 23):

23. (Currently Amended) A system for providing a communication interface between a plurality of devices, said system comprising: a transmitting device having a first data store, said transmitting device having two or more parameters associated therewith; at least one receiving device having a second data store, said receiving device having two or more parameters associated therewith; and wherein said transmitting device transmits a data stream from said first data store to said second data store of said receiving device, said data stream including at least one metavariable, said metavariable being indicative of the two or more parameters of either said transmitting device or said receiving device; *wherein at least one of the parameters defines one or more rendering characteristics to be applied to a print job. Emphasis Added*

Applicants claim (in currently amended claim 32):

32. (Currently Amended) A metavariable for use in an interface between two or more devices, each device communicating descriptive information, said metavariable being indicative of one or more native parameters of a device; *wherein at least one of the parameters defines one or more rendering characteristics to be applied to a print job. Emphasis Added*

Applicants claim (in currently amended claim 38):

38. (Currently Amended) An interface between two or more processes occurring upon a device having at least one data store, each process in communication with one or more of the other processes, through, directly or indirectly, the data store(s) of the device, said interface being configured to generate a datastream including at least one metavariable, said metavariable being indicative of one or more parameters of the device, and said datastream occurring between one transmitting process and one or more receiving processes, *wherein at least one of the parameters defines one or more rendering characteristics to be applied to a print job. Emphasis Added*

Applicants respectfully assert that Shaw fails to disclose the emphasized element² of applicants' independent claims 1, 10, 16, 23, 32 and 38, namely "wherein at least one of the parameters defines one or more rendering characteristics to be applied to a print job".

Accordingly, applicants respectfully assert that Shaw is not a proper basis for a 35 USC §102(b) rejection, as the reference fails to disclose each and every element of the applicants' claimed invention.

Concerning the emphasized element of applicants' independent claims 1, 10, 16, 23, 32 and 38, applicants disclose that:

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It can be seen that the metavariable allows several levels of abstraction of device communication across and interface. The metavariable can be a single real concept such as the *print quality* being 300 dots per inch (DPI), which requires referencing multiple variables in the device to permit use of the metavariable as a command to correctly change the underlying hardware to function properly.

The metavariable can alternatively be a complex, abstract conceptual setting such as "*Conserve Resources*." The conceptual setting of 'Conserve Resources' necessarily varies from device to device; on a laser printer it might mean: duplex, 2-up, and toner-saver mode; and on a computer it might mean: sleep after ten minutes of inactivity. The metavariable consequently gives the developer the ability to create an intuitive command hierarchy of metavariables that are simpler to understand in function without full knowledge of the individuals variables. See the subject application, page 9, line 15 – page 10, line 2; *Emphasis Added*.

Furthermore, while multiple metavariables can control a single native variable, each metavariable can have different properties. For example, the concept of "*image enhancement*" controls various image manipulations that are performed in a printer on a page. Some printers utilize processes or task that allow the user to be able to change this setting, while another printer provides for the capability to report the image enhancement settings current value to the user. Consequently, the underlying variables for the metavariable affecting image enhancement can alter many device settings in one device, and simple generate a report in another device, which is typically accomplished by one variable. See the subject application, page 10, lines 9-16; *Emphasis Added*.

Accordingly, the system disclosed and claimed by the applicants allows for the transmission of one or more metavariables (which includes at least one parameter) that defines one or more rendering characteristics to be applied to a print job. For example, when defining the *print quality* (i.e., DPI) of a print job, a *print quality* parameter may be defined for the print job. Further, when defining a *Conserve Resources* parameter for a print job, "duplex, 2-up, and toner-saver mode" may be utilized concerning the print job. Additionally, when defining an *image enhancement* parameter for a print job, one or more enhancement manipulations may be performed to the print job.

Conversely, the "metavariables" disclosed in Shaw merely concern the print job itself (as opposed to defining one or more rendering characteristics to be applied to a print job). For example, Shaw discloses that:

The enhanced metafile header 12 holds a number of different types of information, including dimension information, resolution information, version

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information and size information. Specifically, the enhanced metafile header is defined as follows (in C++ code):

```
typedef struct tagENHMETAHEADER
{
    DWORD   iType;           // Record type EMR.sub.-- HEADER.
    DWORD   nSize;           // Record size in bytes. This may be greater
                           // than the size of (ENHMETAHEADER).
    RECT    rclBounds;       // Inclusive-inclusive bounds in device units.
    RECT    rclFrame;        // Inclusive-inclusive Picture Frame of
                           // metafile in .01 mm units.
    DWORD   dSignature;      // Signature. Must be ENHMETA.sub.-- SIGNATURE.
    DWORD   nVersion;        // Version number.
    DWORD   nBytes;          // Size of the metafile in bytes.
    DWORD   nRecords;        // Number of records in the metafile.
    WORD    nHandles;        // Number of handles in the handle table.
                           // Handle index zero is reserved.
    WORD    sReserved;       // Reserved. Must be zero.
    DWORD   nDescription;    // Number of chars in the unicode description string.
                           // This is 0 if there is no description string.
    DWORD   offDescription;  // Offset to the metafile description record.
                           // This is 0 if there is no description string.
    DWORD   nPalEntries;     // Number of entries in the metafile palette.
    SIZE    szlDevice;       // Size of the reference device in pixels.
    SIZE    szlMillimeters;  // Size of the reference device in millimeters.
} ENHMETAHEADER;
```

See Shaw, column 3, lines 22-48

Accordingly, the “metavariables” disclosed in Shaw define the print job itself and do not define *one or more rendering characteristics to be applied to a print job*, such as the “print quality” parameter, “conserve resources” parameter, and “image enhancement” parameter discussed above and claimed by the applicants in currently amended independent claims 1, 10, 16, 23, 32 and 38.

Accordingly, applicants respectfully assert that Shaw is not a proper basis for a 35 USC §102(b) rejection, as the reference fails to disclose each and every element of applicants’ currently-amended independent claims 1, 10, 16, 23, 32 and 38. Therefore, the applicants respectfully assert that independent claims 1, 10, 16, 23, 32 and 38 are patentable over the cited reference.

As dependent claims 2-9 and 42 depend (either directly or indirectly) upon independent claim 1, dependent claims 11-15 and 43 depend (either directly or indirectly) upon independent claim 10, dependent claims 17-22 and 44 depend (either directly or indirectly) upon independent claim 16, dependent claims 24-31 and 45 depend (either directly or indirectly) upon independent claim 23, dependent claims 33-37 and 46 depend (either directly or indirectly) upon independent claim 32, and

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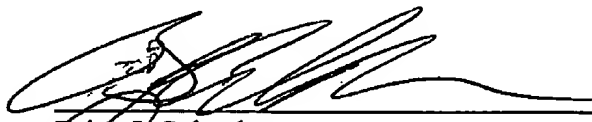
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dependent claim 39-41 and 47 depend (either directly or indirectly) upon independent claim 38, the applicants respectfully assert that claims 2-9, 11-15, 17-22, 24-31, 33-37 and 39-47 are also patentable over the cited reference.

No new matter has been added by these amendments. While the applicants respectfully assert that the subject application is now in condition for allowance, the Examiner is invited to telephone applicants' attorney (603-668-6560) to facilitate prosecution of this application. Please apply any charges or credits to deposit account 50-2121.

Respectfully submitted,

11 JANUARY 2006
Date


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